Degree of Change in Mitral Regurgitation (MR) Following TAVI

DEGREE OF MR	No. of Pt Pre (%)	No. of Pt Post (%)	P. VAL.
No MR	3 (6%)	16 (32%)	0.001
Mild MR	20 (40%)	22 (44%)	NS
Moderate MR	21 (42%)	10 (20%)	0.001
Severe MR	6 (12%)	2 (4%)	NS

TF - TRANSFEMORAL
TA - TRANSAPICAL
NS - not significant
S - Significant

Conclusion: Degree of MR Improvement achieved in 56% patient. The predictor factor that influence the reduction of severity of MR Post TAVI are a) Hypertension b) change in the degree of Pulmonary Artery Pressure post TAVI.

However the eteology of MR, change in aortic gradient and change of LV function post TAVI were not significant predictor.

CRT-134

Factors Predicting Prolonged Hospital Stay After TAVI

Margarita Sirotina, Johannes Weber, Malte Buergstein, Ilona Hofmann, Horst Sievert
CardioVascular Center, Frankfurt am Main, Germany

Background: Transcatheter aortic valve implantation (TAVI) has become a valuable alternative to aortic valve replacement (AVR) for surgical high-risk patients with severe aortic stenosis. Due to technical improvements and increased operator experience the valve implantation success has become very high. Nevertheless, the post procedural recovery in these elderly patients is often prolonged. We aimed to evaluate clinical and demographic predictors of a prolonged hospital stay in patients undergoing TAVI.
Methods: We included 187 consecutive patients with severe aortic stenosis who underwent TAVI. The valve was implanted by transfemoral technic in 180 (96.3%), transapical in 2 (1.1%) and via the subclavian artery in 5 (2.7%) patients. We implanted 160 (85.6%) CoreValve and 27 (14.4%) Edwards Sapien prostheses. Logistic regression was used to determine the factors affecting length of stay longer than median.
Results: Median of length of stay was 7 days. Pulmonary hypertension above 60mmHg, prior ischemic stroke, EuroSCORE II above median (5.3%) and previous cardiac surgery did not have significant influence on the length of hospital stay (LOS). The following parameters could be identified as predictors of a hospital stay > 7 days (table 1).
Conclusion: Age above 85, STS-Score above median (5.6%), female gender, state of chronic renal failure ≥ 3, logistic EuroSCORE above median (14.7%) are associated with an increased risk of a longer hospital stay after TAVI. Independent predicting risk factors are only the STS Score above median (5.6%) and the age above 85.

Table 1. Predictors of LOS > 7 days

	Odds ratio	95% CI	p-value
State of chronic renal failure ≥ 3	1.9	1.1-3.5	0.03
STS-Score[1] > median (5.6%)	2.5	1.4-4.5	0.003
EuroSCORE Log[2] > median (14.7%)	1.9	1.1-3.4	0.03
Age > 85	2.6	1.3-5.5	0.01
Female Gender	2.0	1.1-3.6	0.03

CRT-135

Transapical Aortic Valve Implantation Has Simplified Surgical Treatment Of Sever Aortic Valve Stenosis In Elderly High Risk Patients With Previous Cardiac Surgery: A Propensity Analysis

Nestoras Papadopoulos,[1] Nina Schiller,[1] Andres Beiras Fernandez,[1] Stephan Fichtelscherer,[2] Ralph Lehmann,[2] Ullrich Stock,[1] Anton Moritz,[1] Mirko Doss,[1] Andreas Zierer[1]
[1]Division of Thoracic and Cardiovascular Surgery, Johann-Wolfgang-Goethe University Frankfurt/Main, Frankfurt am Main, Germany [2]Division of Cardiology, Johann-Wolfgang-Goethe University Frankfurt/Main, Frankfurt am Main, Germany

Objectives: The aim of this study was to compare surgical outcome of patients with previous cardiac surgery undergoing transapical aortic valve implantation (Redo-TAVI) to those undergoing classic aortic valve replacement (Redo-AVR) by using propensity analysis.
Background: TAVI has been suggested as an alternative to surgery in elderly patients considered inoperable or high risk for surgical aortic valve replacement.
Methods: From January 2005 through Mai 2012, 52 high risk patients underwent Redo-TAVI using a pericardial xenograft fixed within a stainless steel, balloon-expandable stent (Edwards SAPIENTM). During the same period of time 167 patients underwent classic Redo-SAVR. Logistic regression analysis was used to identify covariates among 10 baseline patient variables including the type of initial surgery. Using the significant regression coefficients, each patient's propensity score was calculated, allowing selectively matched subgroups of 40 patients each. Initial surgery included CABG in 29 patients and valve surgery in 11 patients in each group. Operative outcomes were analyzed for differences. Follow-up was 4±2 years and 100% complete.
Results: Postoperative chest tube drainage (163±214 vs 562±332 ml/24h, p: 0.024), incidence of permanent postoperative neurologic events (0 vs 13%, p: 0.012) and 30 day mortality (10 vs 20%, p: 0.046) was lower in patients with Redo-TAVI as compared to Redo-AVR. There was a trend towards a decreased ventilation time and need of transfusion of packed red blood cell concentrates in the Redo-TAVI group (p: 0.078). One patient in the Redo-TAVI group required temporary cardiopulmonary bypass support. During late follow up there was no significant difference regarding mortality (10 vs 13%) and incidence of stroke (0 vs 3%, p:0.11).
Conclusions: Despite the limited number of patients, current data suggest a faster postoperative recovery and reduced perioperative morbidity and mortality with Redo-TAVI as compared to classic Redo-AVR. This evolving approach has reduced surgical trauma and may be particularly applicable to elderly high risk patients with previous cardiac surgery.

CRT-136

Long-Term Results Following Transcatheter Aortic Valve Replacement (TAVR)

Pablo Codner, Abid Asali, Hanna Vaknin-Assa, Yaron Shapira, Gabriel Greenberg, Katia Orbin, Marina Kupershmidt, Tamir Bental, Alexander Battler, Alexander Sagie, Ran Kornowski
Rabin Medical Center, Petah Tikwa, Israel

Background and Aim: TAVR is an emerging technique for the treatment of severe symptomatic aortic stenosis (AS). Few data reported the long-term outcomes of patients undergoing TAVR. Thus, we aimed to focus on the prolonged results of the TAVR procedure.
Methods: We analyzed the outcomes of 190 TAVR treated patients that were followed up to 3 years. All patients were at very high risk for surgical valve replacement. The Medtronic-CoreValve device was utilized in 64.2% and the Edwards-SAPIEN device in 35.7% of patients. The primary end point was death from any cause during follow up.
Results: The mean (±SD) patient age was 82.1±5.7 years (60.5% female). Procedural success rate (per VARC) was 96.8%. At 30 days, all-cause mortality was 3.1% and stroke rates 3.7%. Two years follow up was obtained in 112 patients. All-cause mortality was recorded in 13.6% of treated patients (4.2% cardiac mortality). No significant differences in mortality were found when angioplasty was performed prior or during TAVR compared to TAVR alone. Multivariate analysis showed that increased baseline creatinine (HR 1.47; 95% CI 0.92-2.34; p=0.099) and increased LogEuroSCORE (HR 1.03; 95% CI 1.01-1.07; p=0.017) predicted all-cause mortality.
Conclusion: According to our clinical experiences, the long-term prognosis of 'all comers' TAVR patients is favorable.

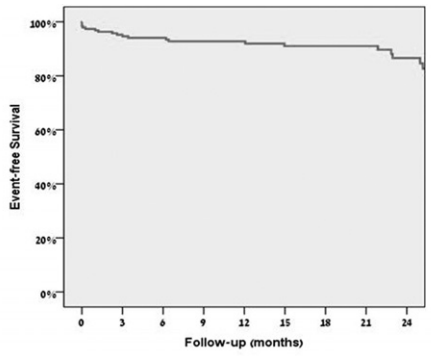

Figure 1. Kaplan-Meier Curve of Freedom from All Cause Mortality.

At 30 days, 6 months, one year, 2 years and 3 years 96.8%, 94.2%, 93.1%, 90.5% and 86.4 of patients were free from all-cause mortality, respectively.

Table

	Normal n=163	Mild-mod n=43	Severe n=36	p value
Demographics				
Age ± SD	84±7	84±7	85±7	0.87
Male	42%	63%	61%	0.01
STS score	10.5±3.8	10.2±3.2	12.6±5	0.03
HTN	92%	94%	97%	0.84
Diabetes	30%	22%	38%	0.39
Renal failure	54%	55%	70%	0.28
Hx of MI	11%	19%	29%	0.07
Hx of CABG	32%	47%	41%	0.23
Procedural outcome				
Major vascular complication	10.3%	19.4%	3.8%	0.18
Stroke	4.7%	10.5%	12.1%	0.15
Major bleed	12.7%	7.4%	7.4%	0.81
In hospital mortality	6%	2.6%	3%	0.72
1-year mortality	20%	14%	19%	0.65

CRT-137

Clinical Outcome In Patients With Low Left Ventricular Function Undergoing Transcatheter Aortic Valve Replacement

Israel Barbash, Danny Dvir, Saar Minha, Itsik Ben Dor, Salem Badr, Joshua P Loh, Lakshmana Pendyala, Hironori Kitabata, Rebecca Torguson, Petros Okubagzi, William Suddath, Lowell Satler, Kenneth Kent, Augusto Pichard, Ron Waksman
MedStar Washington Hospital Center, Washington, DC

Background: Left ventricular ejection function (LVEF) recovers in the majority of patients with aortic stenosis (AS) who undergo aortic valve replacement. However the outcomes of patients with low EF who undergo transcatheter aortic valve replacement (TAVR) are not well defined.
Methods: Retrospective analysis of AS patients with normal versus mildly or severely impaired left ventricular function who underwent TAVR was done. Patients were divided according to baseline LVEF as normal (LVEF ≥ 0.50), mild-moderate (0.40 ≤ EF ≥ 0.50) and severe (LVEF<0.40) dysfunction.
Results: A total of 242 patients were included in the present analysis. 163 patients (67%) had normal LVEF, 43 had mild-moderate (18%) and 36 (15%) had severe LV dysfunction. Baseline demographics were generally comparable apart from higher rates of women and STS score among patients with LV dysfunction (Table). There was no difference in access approach with 72% of the patient having transfemoral access. No significant difference in the in hospital and long term outcome were found (Table).
Conclusions: Patients with severe AS and impaired LV function who undergo TAVR may gain similar benefit from the procedure as patients with normal LV function.

CRT-138

Initial US Experience with Commercial Transfemoral Sapien Transcatheter Heart valve compared to PARTNER Cohort B

Lakshmana K Pendyala, Israel Barbash, Sa'ar Minha, Joshua Loh, Hironori Kitabata, Salem Badr, Danny Dvir, Rebecca Torguson, Satler Lowell, Augusto Pichard, Ron Waksman
MedStar Washington Hospital Center, Washington, DC

Background: Edwards Sapien transcatheter valve is FDA approved for commercial use in non-operable patients with severe symptomatic aortic stenosis (AS) via the transfemoral approach.
Objective: To assess the clinical profile and in-hospital complications in patients treated with commercial valve compared to PARTNER cohort B.
Methods: Study included all consecutive patients treated with commercial Sapien valve at our institution. Baseline characteristics, clinical presentation and in-hospital complications were analyzed. Among all trasfemoral cases 37 commercial valve patients were compared to 54 patients in cohort B.
Results: All clinical variables are similar between the groups including STS score (9.4±4 vs. 10.7±5, p=0.24) except commercial patients had more insulin dependent diabetes mellitus and dialysis dependent renal failure. In majority of the patients in the commercial arm the procedure was done with conscious sedation (81% vs. 56%, p=0.02). The use of planned surgical cut down for vascular access is also rare (4% vs. 85%, P<0.001) in commercial group. 100% procedural success in both the groups with valve deployment. There is trend for lower vascular and bleeding complications with less blood transfusion rates (27% vs. 59%, p=0.007) in the commercial patients. The in-hospital mortality and stroke rates are similar between the groups.
Conclusions: The initial commercial use of the Edwards Sapien valve for inoperable patients reported to have similar success rates in valve deployment, in-hospital mortality and stroke rate when compared to PARTNER cohort B patients. The refinement in the procedure with more conscious sedation, experience of the operators and careful vascular planning with more percutaneous access in the commercial group lead to the trends for lower vascular complications and the requirement of blood transfusions.